

# Alligator Hunting Season Report 2020



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## INTRODUCTION

The successful return of the American alligator (*Alligator mississippiensis*), since its near demise and subsequent listing as “endangered” by the Endangered Species Act in the 1960s, has prompted most Southeastern states to implement hunting seasons to allow the public use of this unique natural resource. The hunts are also seen as an attempt to maintain the number of nuisance alligator complaints at a manageable level. The alligator is currently listed as “threatened,” not because of population numbers, which are secure, but because of its “similarity of appearance” to other rare and protected crocodilians worldwide. It is estimated that a minimum of 100,000 alligators occur in the state of South Carolina.

The 2020 Public Alligator Hunting Season marked the thirteenth general alligator hunting season after a closure of nearly 40 years. However, alligators have been legally hunted in South Carolina since 1995 under the Private Lands Alligator Harvest Program. The Private Lands Program was established as a means for large landowners having significant amounts of alligator habitat to manage their alligator numbers on a sustained-yield basis and included quotas for specific size-class alligators. This year’s public hunt, utilizing a random computer drawing, was open to all applicants, including nonresidents, and was conducted on public and private lands (not enrolled in the Private Lands Program) from the Midlands to the coast.

Because alligators can grow to considerable size, alligator hunters can have others assist them with the taking of an alligator during the season. Everyone who participates must have a South Carolina hunting license or be under the age of 16. To participate in the public alligator season, one must first apply online, be selected, then pay a fee for a permit and harvest tag. The fee for the permit and tag is \$100. In addition, any nonresident hunter or nonresident assistant 16 years of age or older must pay a \$200 nonresident alligator hunting fee. By law, all fees collected for the alligator hunting program are used to support administration of the alligator program in South Carolina, and for research, monitoring, and management of this important and unique natural resource.

## HUNTER SELECTION

The public alligator hunt is a limited, lottery-style hunt in which participants are selected in a randomized computer drawing. All potential hunters are required to apply online through the Department of Natural Resources (DNR) website ([www.dnr.sc.gov](http://www.dnr.sc.gov)) and pay a non-refundable application fee of \$10. A person must be 16 years of age or older to apply for any alligator lottery hunt. There is no age requirement to assist a permitted alligator hunter, although other fees may apply.

The four alligator hunt units (Figure 1) remain unchanged. Except for a small portion of Berkeley County located within Lake Marion, county lines bound all hunt units. The allocation of permits for 2020 was 250 per hunt unit based on 1,000 total tags available. Hunters could select the option to be considered for any or all the units for the computer drawing, but if successful, are only selected to hunt in one unit. After paying the \$100 tag fee, those selected for the hunt are issued a permit and one harvest tag. All alligator harvest tags and permits are issued specifically to the selected hunter and are non-transferrable. The harvest tag is a numbered, permanently locking nylon tag that must be attached to the alligator’s tail immediately after harvest. The permit and tag allow a hunter to take one alligator greater than 4 feet in total length from either public or private waters in their selected hunt unit; however, no alligator hunting

is allowed on certain public lands such as Wildlife Management Areas (except in navigable waters normally open to the public for hunting), State Parks, or Federal properties such as National Wildlife Refuges and their jurisdictional waters.

Two Wildlife Management Area (WMA) properties, Bear Island and Santee Coastal Reserve, were opened for alligator hunting beginning in 2011 and closed to alligator hunting after the 2017 season. These two WMAs were part of a special draw hunt held separately from the regular Public Alligator Hunting Season, but due to extremely long wait times for hunt selection and often disappointing hunt results these hunts were discontinued.

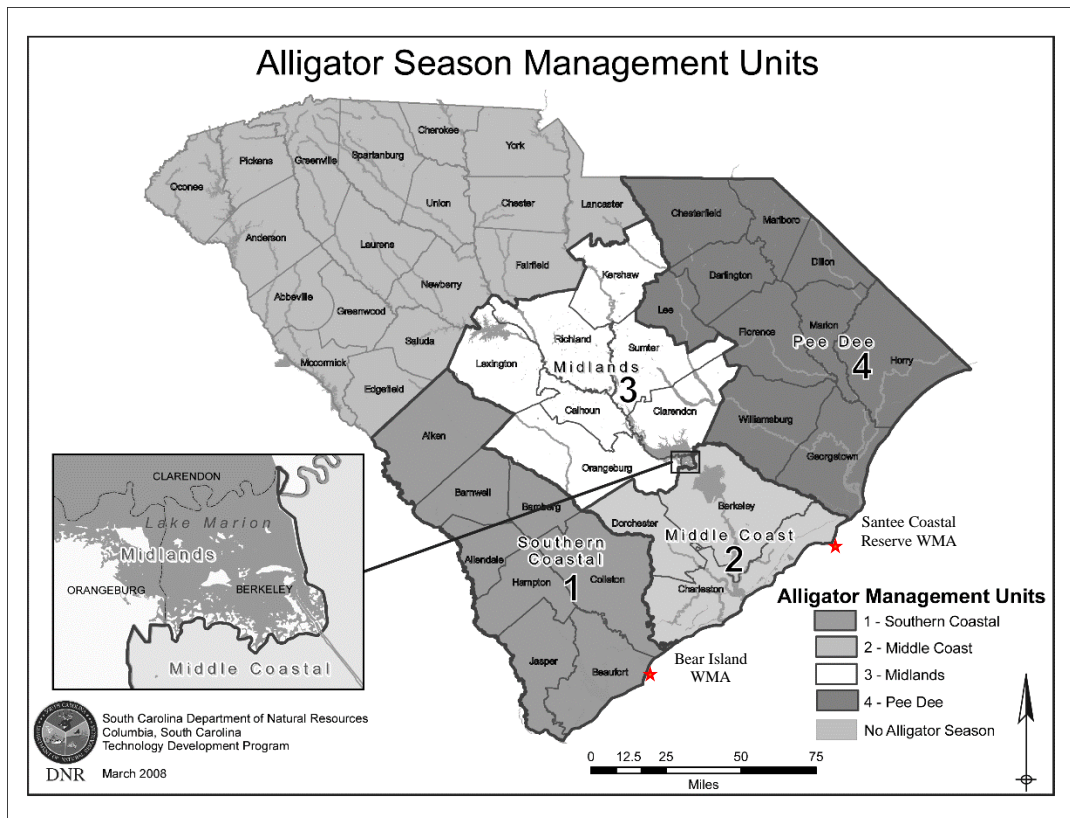


Figure 1. 2020 Alligator Management Units.

Legislation passed during the 2010 legislative session requires that all nonresident alligator hunters pay a *nonresident alligator hunting fee*. This fee is *in addition* to any application, licensing, and permit fees normally required to hunt alligators, regardless of the alligator hunting program. The cost is \$200 and is required of all nonresident hunters, as well as all nonresident assistants that are 16 years of age or older. Thus, the *minimum* cost for a nonresident alligator hunter that receives a permit and tag in the hunt selection is \$350. The fee breakdown would be: \$10 for the application, \$100 for the permit/tag, \$200 for the nonresident alligator hunting fee, and \$40 for a 3-day nonresident hunting license. Nonresident assistants 16 years of age or older would pay a minimum of \$240. This would include the \$200 nonresident fee and a 3-day hunting license (\$40). Nonresident assistants under 16 do not pay any fees. Other states have similar additional nonresident fees or prohibit nonresident participation altogether.

The lottery selection process began as usual on May 1<sup>st</sup> and ended on June 15<sup>th</sup>. A total of 7,173 hunters applied for the 2020 hunt. This is an increase of 171 applicants over last year. The applicants were from 45 different states (including SC) along with one applicant from the Virgin Islands and two from Canada. The number of resident applicants remained steady at 88.9% of the total applications received for the Public Hunting Season. Of the non-residents, NC and GA residents were 3.7% and 0.9% of the total number of applicants. No other states' applicants were more than 1% of the total.

No hunters with fewer than three preference points were selected for the Public Alligator Hunting season. The majority (87.7%) had three preference points. The remaining selected hunters had four (7.8%) and five or greater (4.1%) preference points. Another 361 applicants with four or more preference points were not selected this season or chose the non-draw option. Applicants lose any accumulated preference points once selected for a permit, whether the permit is purchased or not.

A total of 850 of the 1,000 hunters selected (85.0%) in the 2020 season completed the application process and were issued a harvest tag and permit. The tag purchase rate was higher than last year's rate of 80.8%. This purchasing rate remains at or above the predicted fulfillment rate of 75-80% relative to the targeted tag distribution. Currently, the targeted allotment is 1,000 tags, a number which is subject to change in future years based on harvest and/or alligator survey data.

The 2020 Alligator Hunting Guide, (<http://www.dnr.sc.gov/wildlife/alligator/pdf/2020gatorguide.pdf>) was updated to reflect changes from the previous season.

The 2020 season began at noon on September 12<sup>th</sup> and ended at noon on October 10<sup>th</sup>.

## SEASON RESULTS

All permitted alligator hunters were required to report their hunting activities by November 1<sup>st</sup>, regardless of whether they went alligator hunting in South Carolina. Reporting compliance for 2020 was 48.3% for all fully permitted hunters. Those hunters who did not report are not eligible to apply for the next hunting season.

The total number of alligators reported taken during the 2020 public alligator hunting season was 253, a decrease of 83 alligators (24.7%) from the 2019 season. This represents a success rate of 29.8% for all fully permitted hunters (n=851) and 25.3% for all selected applicants (n=1,000). The Southern Coastal unit had the most alligators taken at 75, followed by the Middle Coastal with 72, the Pee Dee Unit with 54, and the Midlands with 52 (Table 1).

Table 1. The number of alligators taken, and percent of total alligators harvested for the 2020 season by Hunt Unit.

Hunt Unit	Number of Alligators Taken	Percent of Total Harvest*
Middle Coastal	72	28.5%
Midlands	52	20.5%
Pee Dee	54	21.3%
Southern Coastal	75	29.6%
Total	253	100.0%

\*Percentages may not be equal due to rounding of decimal numbers.

Fully permitted hunters (n=851) who reported going hunting (n=464) had a success rate of 61.6%. The number of hunters that hunted but were unsuccessful was 178 (38.4%). Another 3.6% of hunters (n=31) that paid their \$100 tag fee reportedly did not go alligator hunting this season. The *reported* participation rate was highest in the Middle Coastal Unit, with 49.2% of *all selected hunters* (n=250) for the unit going on at least one alligator hunting trip. Participation rates for the other units are shown in Figure 2.

Of *all participating hunters reporting*, the Middle Coastal hunters averaged 2.77 hunting trips (SD=2.4) per hunter, the Midlands hunters averaged 2.9 days afield (SD=2.46), the Southern Coastal hunters at 2.2 days (SD=1.4), and Pee Dee hunters averaged 2.2 days afield (SD=1.8). Collectively, all hunters averaged 2.5 days hunting alligators (SD=2.1).

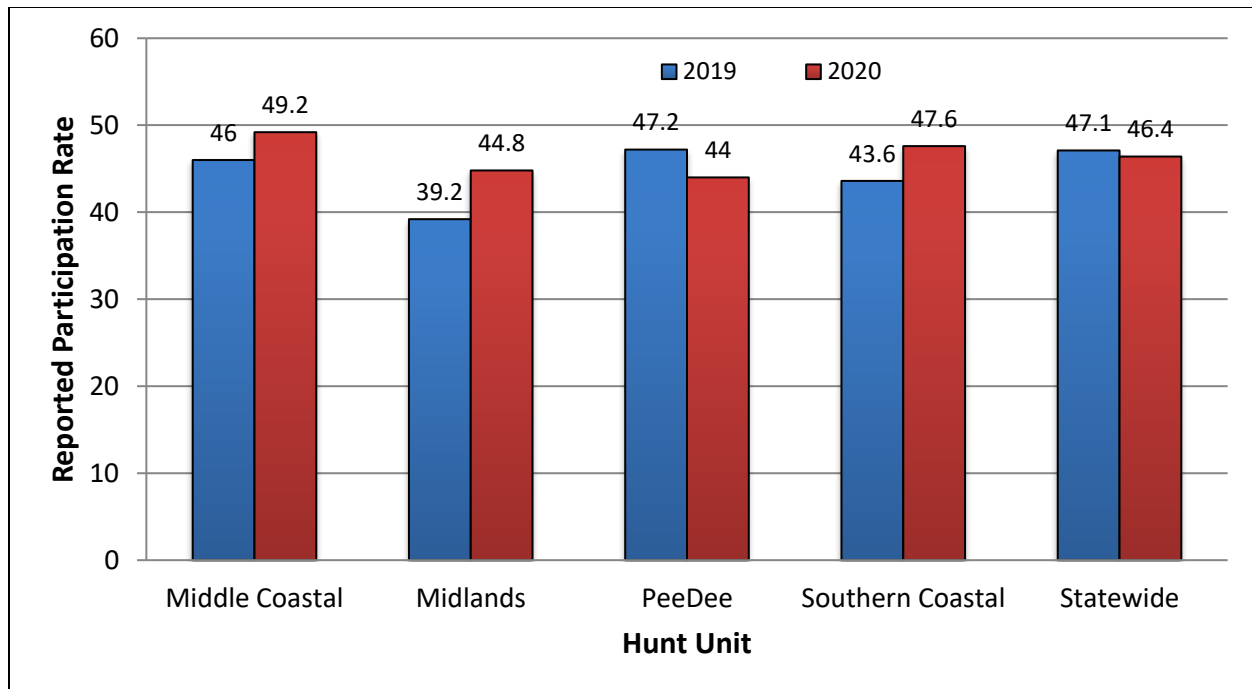


Figure 2. Reported participation rate (at least one trip afield) for all hunters selected to participate in the 2020 alligator season by Hunt Unit.

Considering *only the successful hunters*, the most efficient hunters were from the Pee Dee unit. These hunters went afield 113 times for an average of 2.09 trips per alligator killed. Successful Southern Coastal hunters went on average, 2.2 trips per alligator taken. This is followed by Midlands's hunters which averaged 2.7 trips per alligator and finished up with Middle Coastal hunters which averaged 2.7 trips for each alligator taken. On average, all successful hunters spent 2.4 days hunting for every alligator taken.

The average size of all alligators reported taken during the 2020 public season was 8.9 feet. The average size of alligators taken in the Midlands is 9.5 feet, followed by the Middle Coastal unit at 9 feet. The Pee Dee unit averaged 8.7 feet, and lastly Southern Coastal averaged 8.4 feet (Figure 3). The average size of alligators harvested in all hunt units were larger than in 2019. Four alligators were reported to be 13 feet or greater, compared to three 13 feet or greater harvested in 2019 (Figure 4). According to harvest reports, the largest alligator taken this season was 13'10" from the Middle Coastal unit. The smallest alligator reported was 4'6" and was taken from the Pee Dee unit.

Of the smallest alligators taken, twelve (4.7%) were reported to be less than 6 feet in length. The number of smaller alligators (six feet and smaller) was fewer than last year at fourteen (5.5% of total) this season. The greatest number of larger alligators 25 (33.3%), those animals *10 feet and larger*, came from the Midlands, followed by the Middle Coastal unit (29.3%), Southern Coastal unit (18.6%), and Pee Dee (17.3%) (Figure 5). Of the *very large* alligators, those animals *12 feet and larger*, the Middle Coastal unit (n=6) had a slightly larger number of the total alligators taken, followed closely by the Midlands (n=4). Neither the Pee Dee or the Southern Coastal units had any animals 12 feet and larger. Three alligators 13 feet and larger were harvested, all from the Middle Coastal unit.

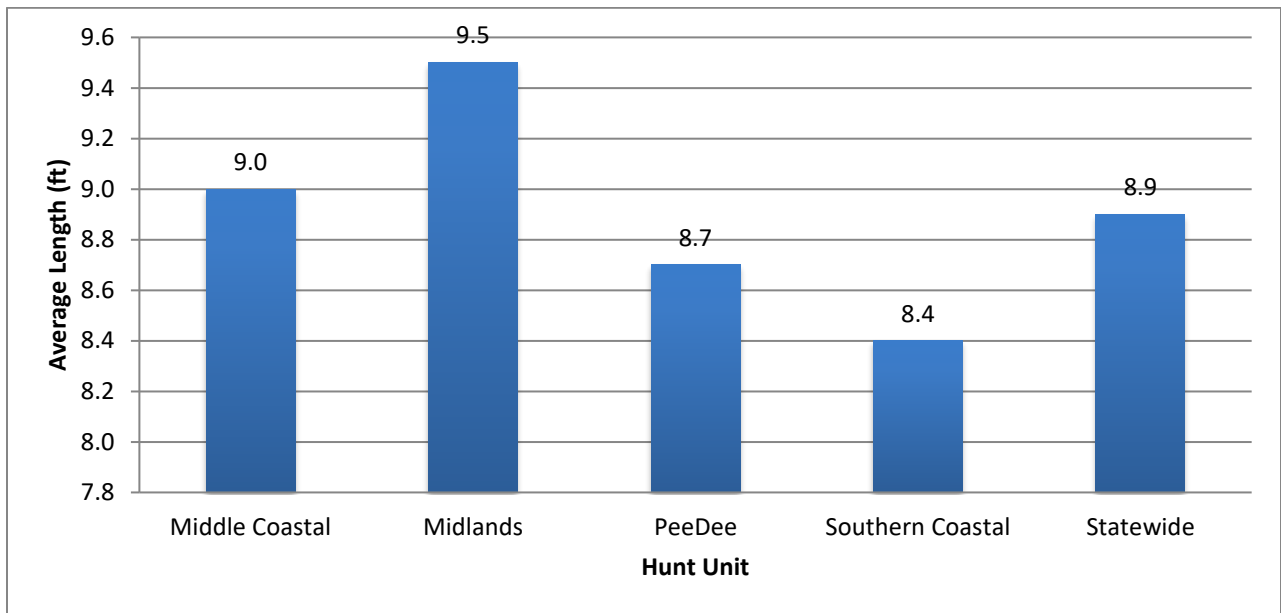


Figure 3. Average size of alligators taken during the 2020 Public Hunting Season by Hunt Unit.

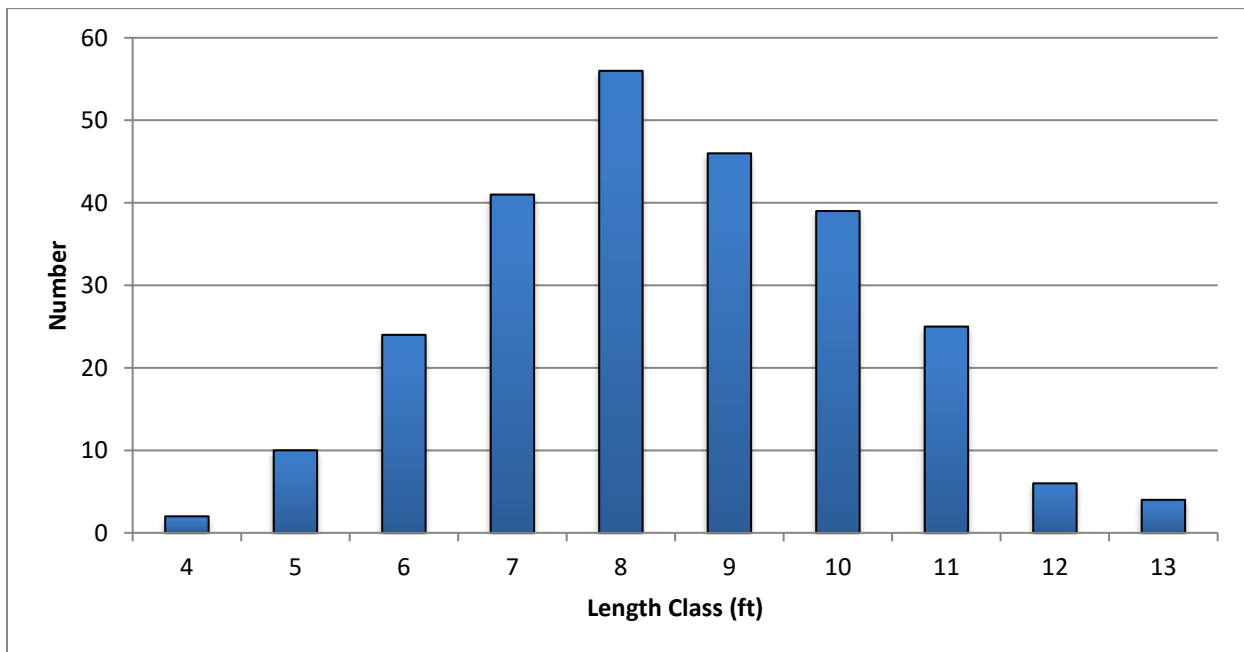


Figure 4. Number of alligators taken by size class during the 2020 Public Hunting Season.

Overall, there was an 2.1% decrease in the number of alligators taken in all size classes greater than 8-foot. (Table 2; also see Appendices).



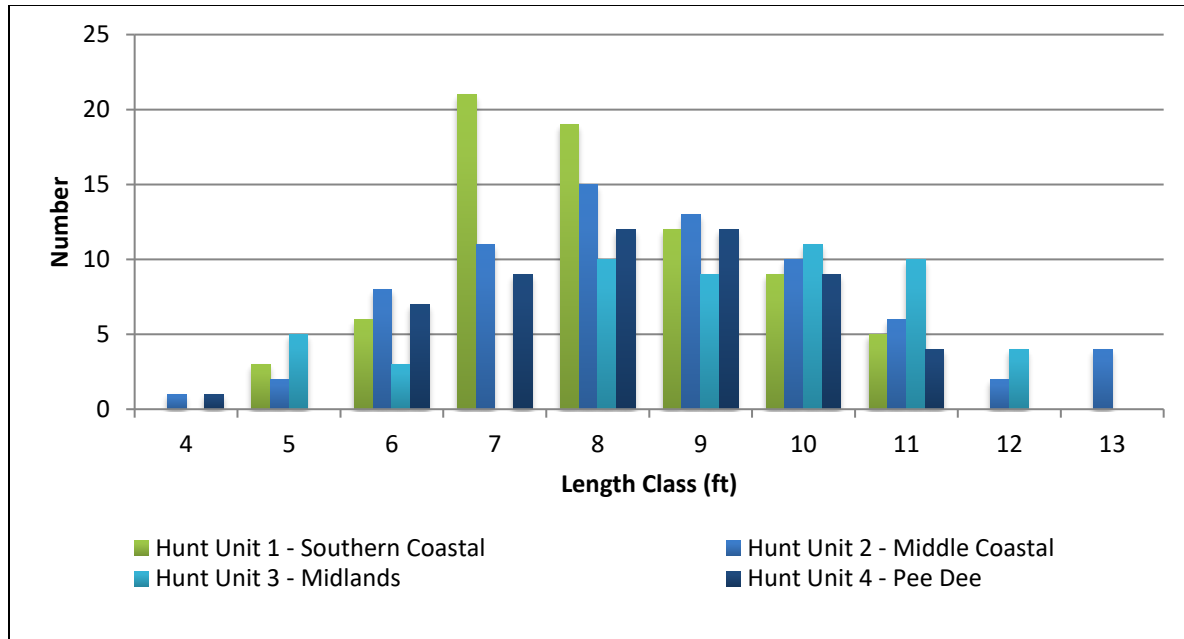


Figure 5. Number of alligators taken during the 2020 Public Hunting Season by size class and Hunt Unit.

Alligator harvest was reported from sixteen coastal plain counties. Reported take by county revealed that three counties: Berkeley, Georgetown, and Colleton, comprised 59.2% of the public alligator harvest (Table 3; Appendix I). Those same counties have accounted for approximately 60% to 70% of the total harvest since the 2009 season. The largest alligators (10'+) came from 11 counties. Allendale, (n=1), Beaufort (n=2), Berkeley (n=30), Calhoun (n=1), Charleston (n=2), Clarendon (n=7), and Colleton (n=9), Georgetown (n=13), Jasper (n=2), Orangeburg (n=5), and Sumter (n=2). (Table 2; Figure 6).

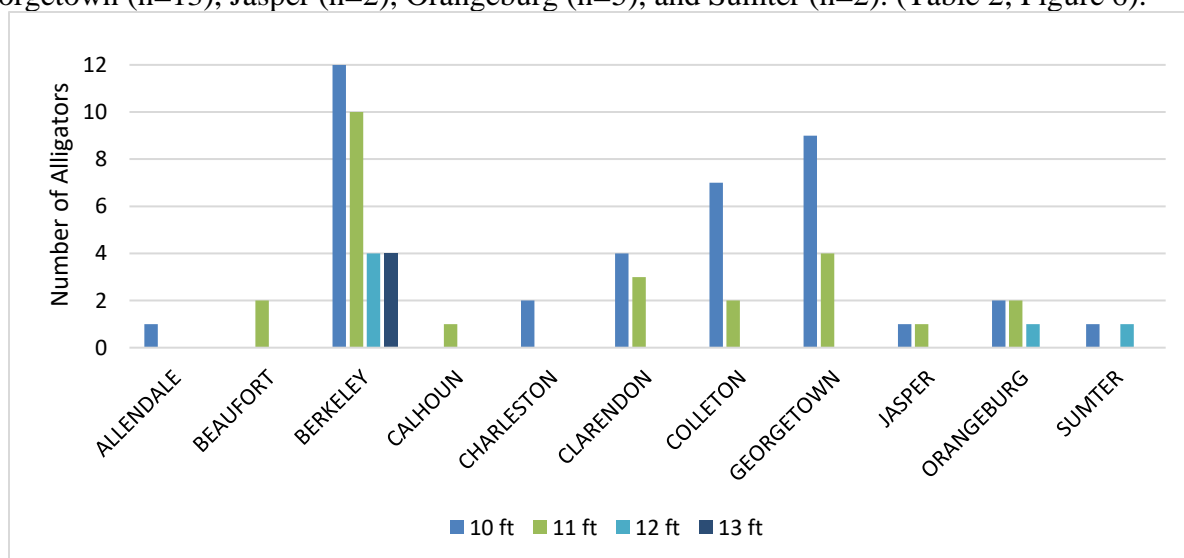


Figure 6. Number of "larger" alligators (10 feet and greater) taken during the 2020 Public Hunting Season by size class and County.

Table 2. Number of alligators taken by size class and Hunt Unit during the 2020 Public Hunting Season.

Hunt Unit	Alligator Size Class <sup>a</sup>									
	4'	5'	6'	7'	8'	9'	10'	11'	12'	13'
Middle Coastal	1	2	8	11	15	13	10	6	2	4
Midlands	0	5	3	0	10	9	11	10	4	0
Pee Dee	1	0	7	9	12	12	9	4	0	0
Southern Coastal	0	3	6	21	19	12	9	5	0	0
Totals	2	10	24	41	56	46	39	25	6	4
Change from 2019	0	-4	-25	-26	-10	+2	-2	-8	-11	+1

<sup>a</sup> Shaded area denotes “larger” alligator size classes.

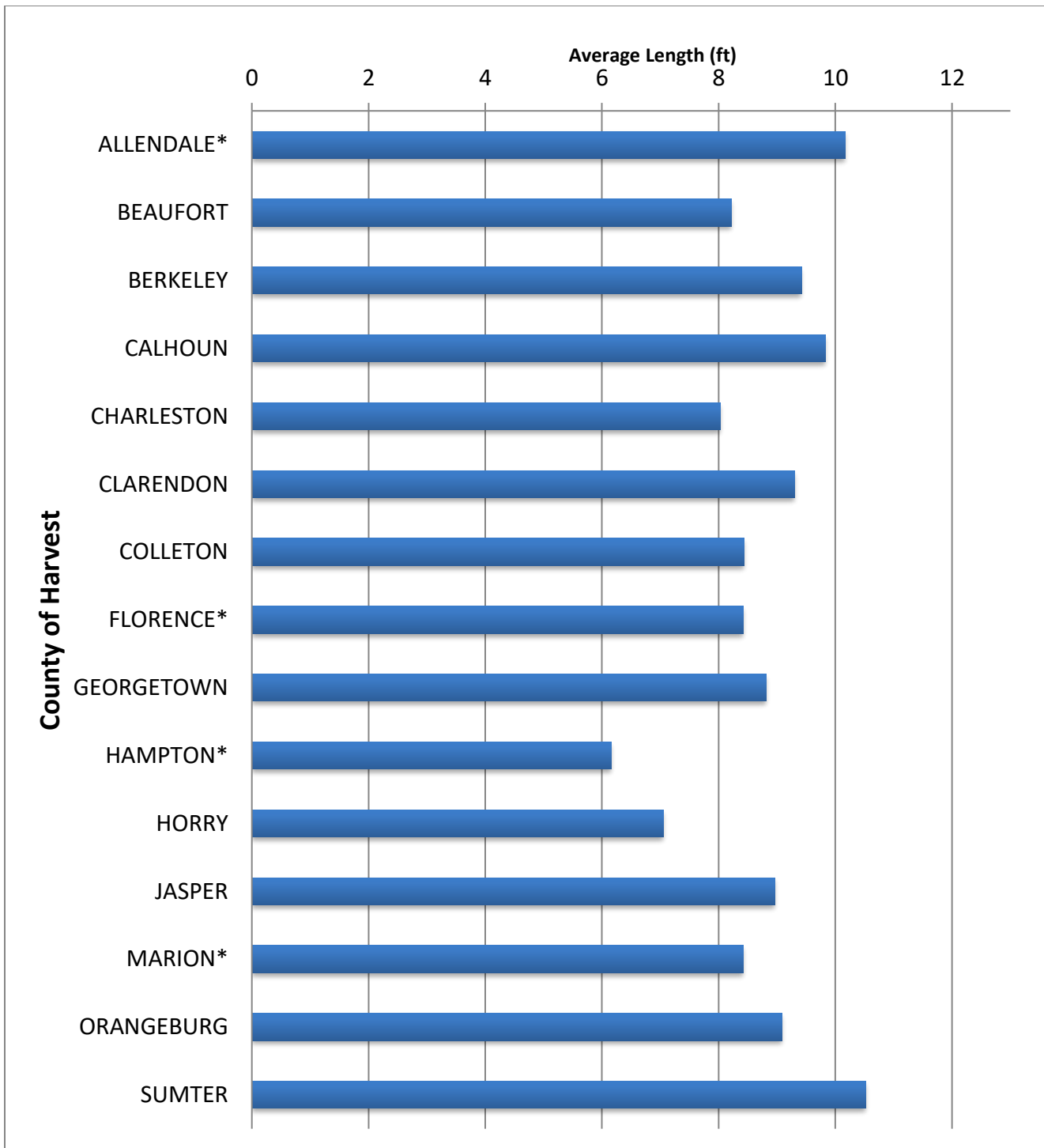
Table 3. 2020 Alligator harvest and percent of total alligator harvest by hunt unit and county.

Hunt Unit	County	Number of Alligators Taken	Percent of Total Harvest*
MIDDLE COASTAL		72	28.5%
	Berkeley <sup>a</sup>	53	20.9%
	Charleston	19	7.5%
MIDLANDS		52	20.7%
	Berkeley <sup>b</sup>	18	7.1%
	Calhoun	3	1.1%
	Clarendon	17	6.7%
	Orangeburg	11	4.3%
	Sumter	3	1.2%
PEE DEE		54	21.3%
	Florence	1	0.4%
	Georgetown	49	19.4%
	Horry	3	1.2%
	Marion	1	0.4%
SOUTHERN COASTAL		75	29.6%
	Allendale	1	0.4%
	Beaufort	20	7.9%
	Colleton	48	18.9%
	Hampton	1	0.4%
	Jasper	5	2.0%
TOTAL		253	100%

<sup>a</sup> Does not include the portion of Berkeley County in the lower end of Lake Marion.

<sup>b</sup> Includes only the portion of Berkeley County in the lower end of Lake Marion.

\*Percentages may not be equal due to rounding of decimal numbers.



\*Represented by only one alligator.

Figure 7. Average length of alligators reported taken during the 2020 Public Harvest Season by county.

Reported meat yield from all harvested alligators was 7,680 lbs.

The most reported alligator capture technique was a hook and line, with over three-quarters (80%) of all successful hunters using this as a primary capture device. The second most reported type was crossbow (14%), followed by a harpoon (4%), and bow (2%) (Figure 6). A total of 17.7% of the successful hunters utilized a guide's services.

Alligator hide utilization (sold, kept, or given away) was reported at 72.1%.

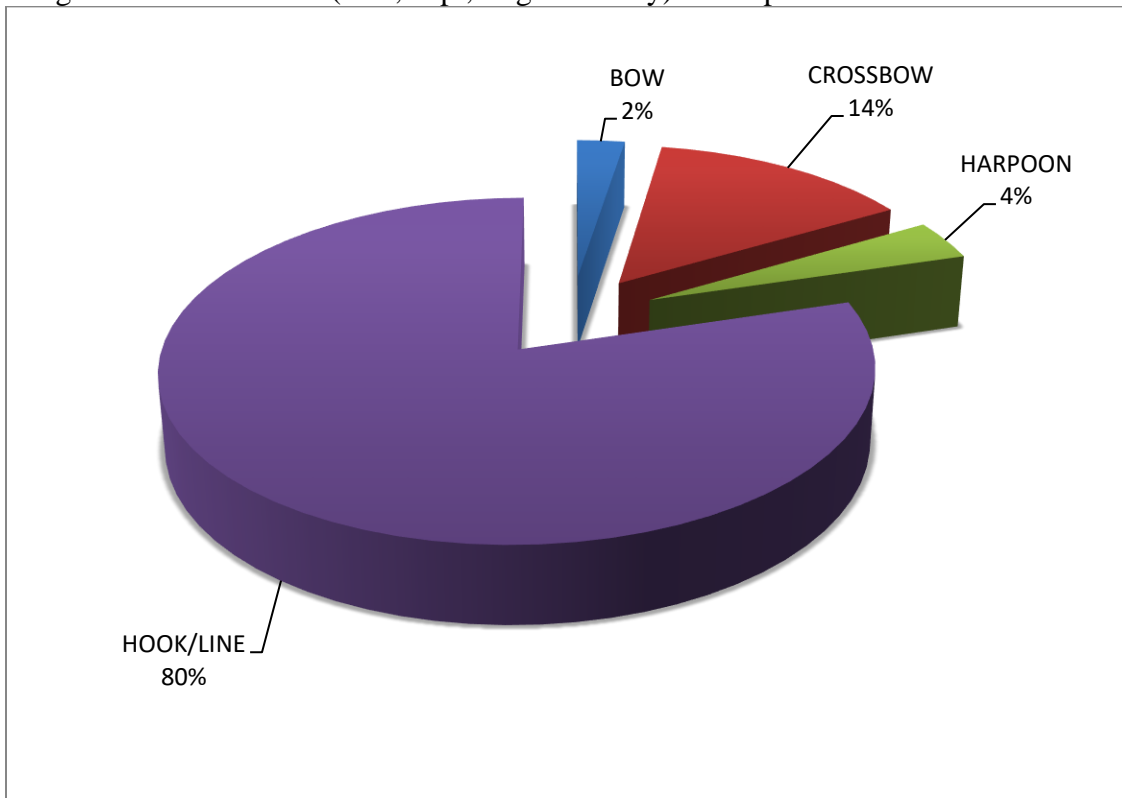


Figure 8. Reported initial capture device utilized during the 2020 Alligator Season.

## DISCUSSION AND RECOMMENDATIONS

The number of applicants for this season's alligator hunt continued to increase from last year and make up a new all-time high. Many hunters apply annually, and as the population growth in South Carolina continues to climb the number of applicants climbs too. A continued increase every year suggests there is still strong interest in South Carolina's public alligator hunting program.

The 2020 hunt was presumably impacted by the Covid-19 Pandemic. The uncertainty of the year along with social distancing guidelines made this year unique in the history of alligator hunting in the state. The hunt participation was lower this year than in years past.

Overall participation was down 16% from last year (Figure 2), although the change was highly variable by hunt region with the Midlands and Middle Coastal units showing an increase in participation. We also observed a reduction in success rate, below the long-term average of 37% (Figure 9).

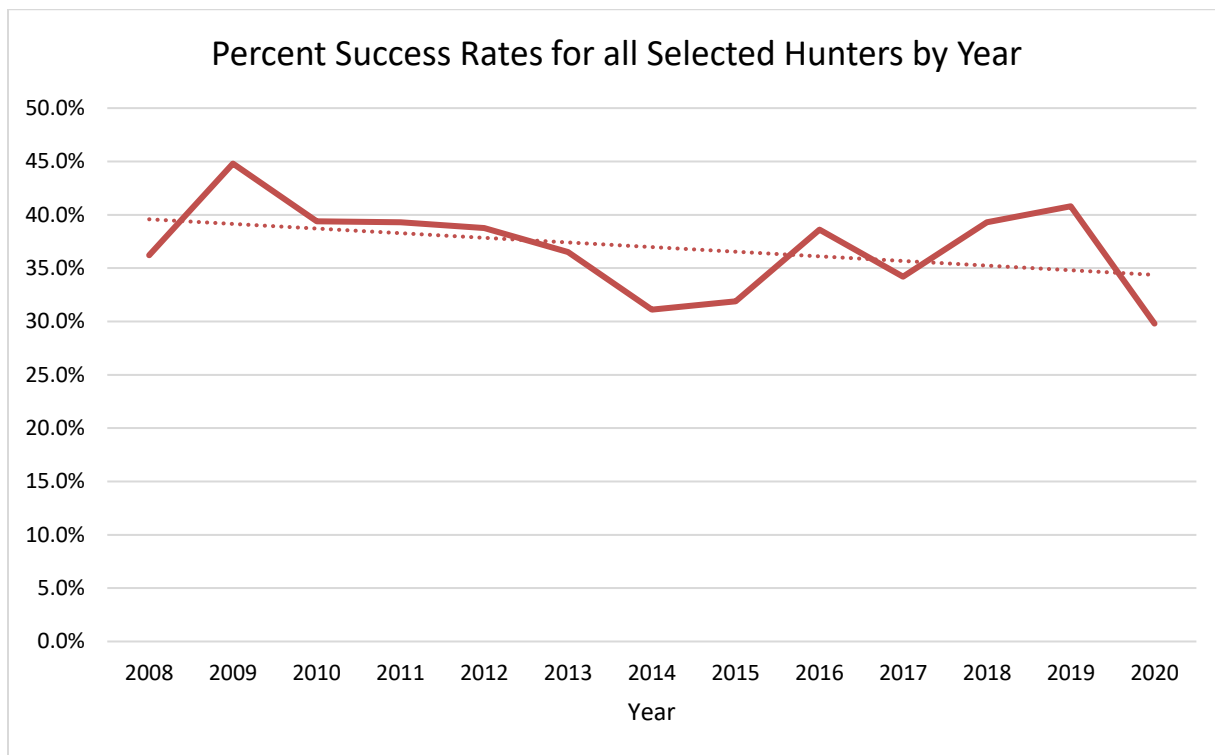


Figure 9. Percent success rate for all selected hunters, by year.

One concern regarding the public alligator hunt is the over harvest of “larger” alligators. Alligator harvest data since 2008 suggests a downward trend in alligators harvested in these larger size classes (Figure 10). While this does not necessarily represent a true decline in the number of large alligators available it does suggest that fewer large alligators are being harvested and reported.

Possible explanations for this apparent trend include but are not limited to:

- 1) An overall reduction in participation and/or reporting of harvest
- 2) An overall reduction in total alligators harvested
- 3) Behavioral changes in alligators resulting from negative anthropogenic interactions
- 4) Reduced accessibility to larger alligators
- 5) It represents a true decline in the larger size classes

Harvest numbers will continue to be closely monitored as there is still uncertainty as to how many of these animals can be taken annually on a sustainable basis. Future management decisions will consider sustainable harvest of all size classes to avoid over harvest

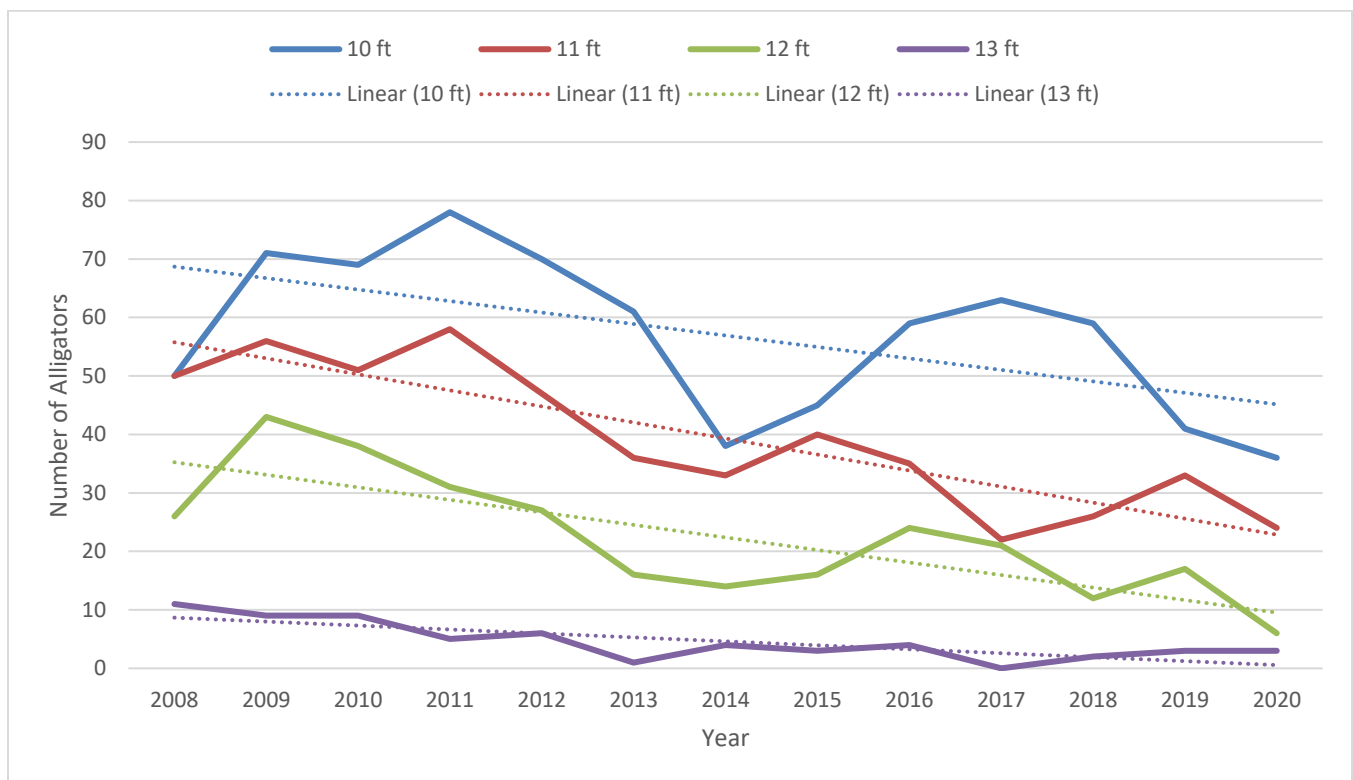


Figure 10. Total number of the largest alligators (10-13 ft.) harvested each year since 2008. Trend lines represent trajectory of harvest numbers over time.

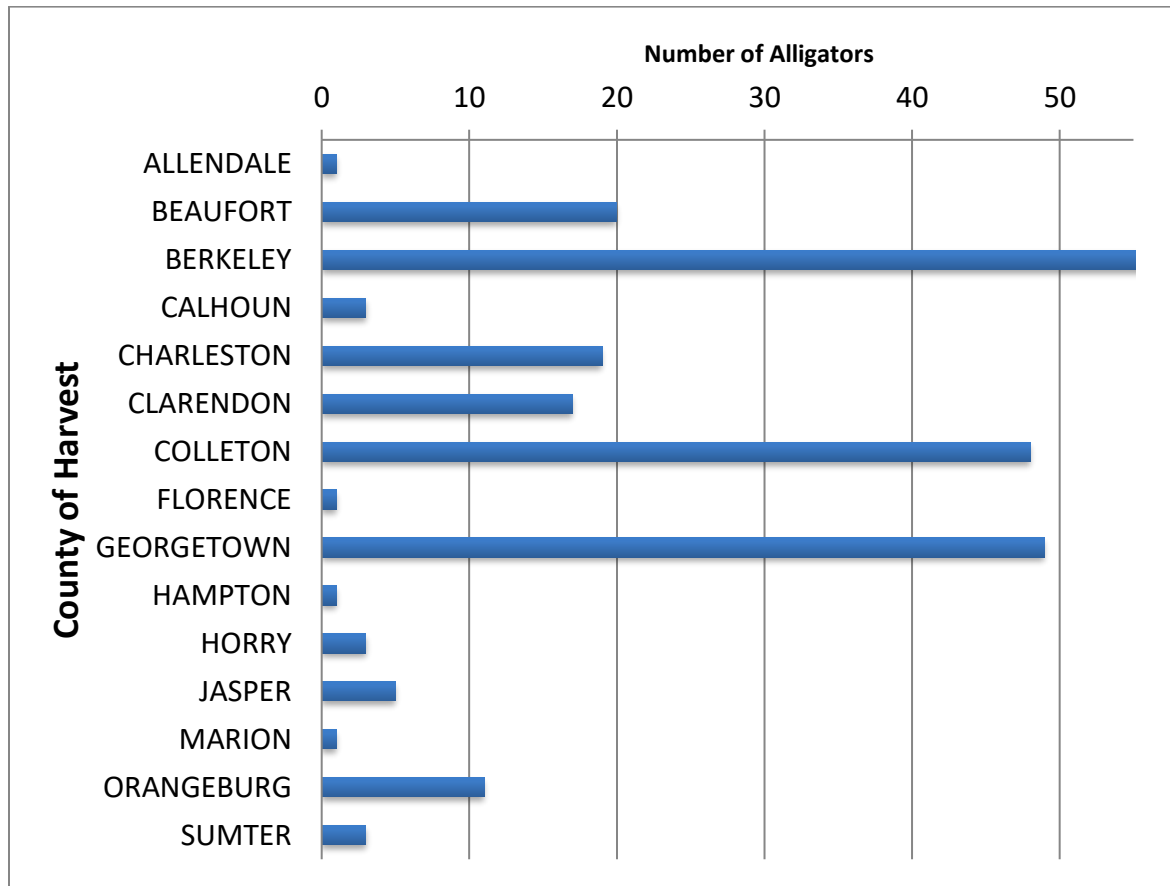
## Appendix

### 2020 Harvest Graphs

By

Public Alligator Harvest Hunt Unit  
&  
County of Harvest  
&  
Cumulative Harvest Totals by Year





Appendix I. Number of alligators taken during the 2020 Public Hunting Season by county of reported harvest.

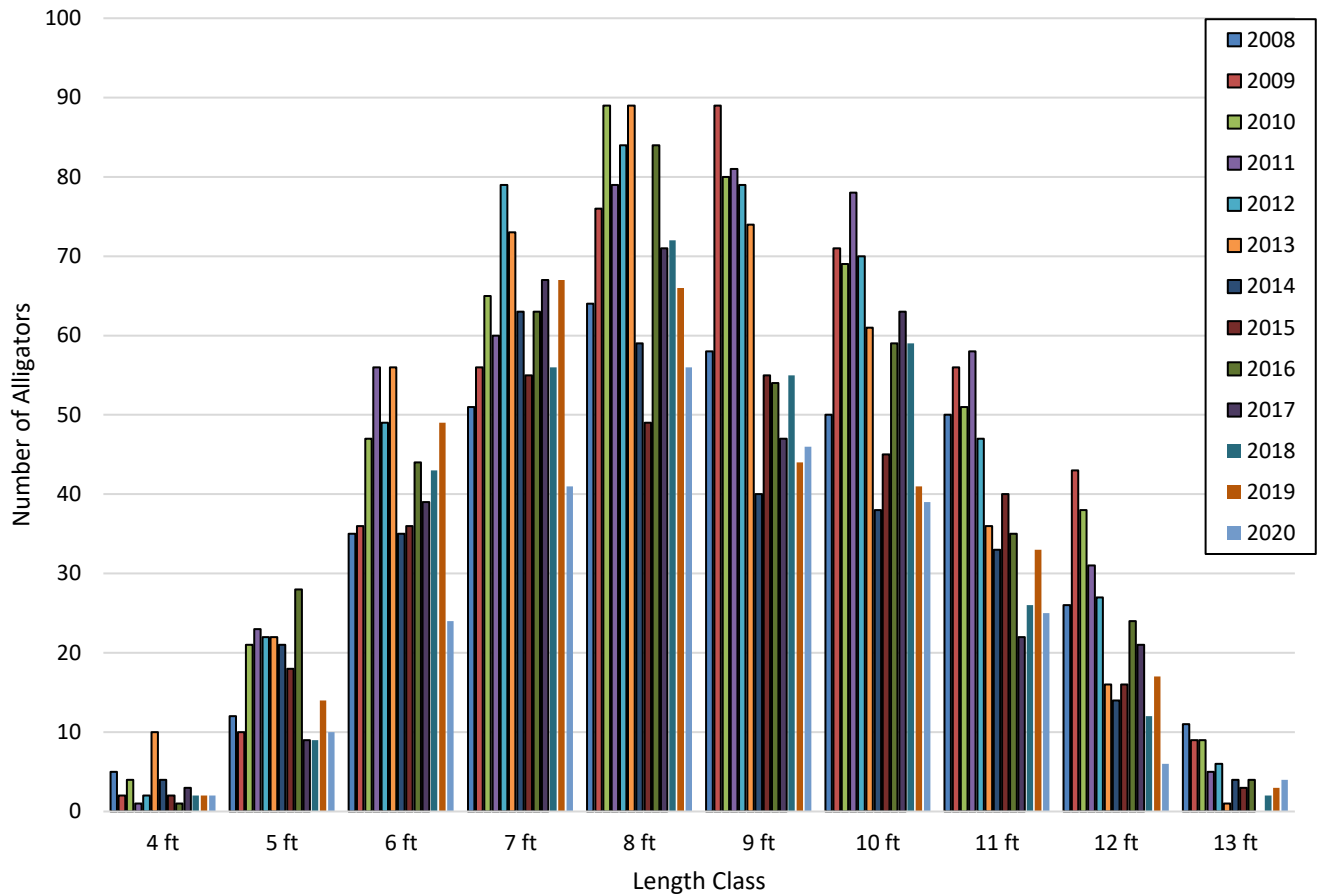
Appendix II. Number of alligators taken during all years of the Public & WMA Hunting Season, by Hunt Unit.

<b>Hunt Unit</b>	<b>Year</b>													<b>Total</b>
	<b>2008</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>	<b>2014</b>	<b>2015</b>	<b>2016</b>	<b>2017</b>	<b>2018</b>	<b>2019</b>	<b>2020</b>	
Middle Coastal <sup>a</sup>	121	147	117	140	134	128	88	88	108	94	88	78	72	1403
Midlands	87	93	104	87	90	82	57	74	79	71	66	89	52	1031
Pee Dee	60	104	111	120	115	121	85	69	91	86	77	89	54	1182
Southern Coastal <sup>b</sup>	94	108	141	136	144	121	81	102	118	91	99	79	75	1389
<b>Annual Total*</b>	<b>362</b>	<b>452</b>	<b>473</b>	<b>483</b>	<b>483</b>	<b>452</b>	<b>325</b>	<b>333</b>	<b>396</b>	<b>342</b>	<b>330</b>	<b>335</b>	<b>253</b>	<b>5005</b>

\* Includes alligators taken during the WMA Alligator Hunting Program beginning in 2011 and ending in 2017.

<sup>a</sup> Includes alligators taken at Bear Island WMA

<sup>b</sup> Includes alligators taken at Santee Coastal Reserve WMA



Appendix III. Number of alligators taken during all years of the Public Alligator Hunting Seasons, by size class.